WHAT IS CLAIMED IS:

1. A method of stabilizing at least two adjacent vertebrae of the spine of a patient, comprising:

inserting an access device through an incision in the skin of the patient generally posteriorly and advancing the access device until a distal portion thereof is located adjacent the spine, said access device being inserted in a first configuration having a first cross-sectional area at the distal portion thereof;

configuring said access device such that the distal portion thereof is enlarged from the first configuration to a second configuration wherein the distal portion is large enough to extend across at least a portion of the adjacent vertebrae;

advancing a bone probe through the access device to one of the two adjacent vertebrae;

forming a hole in one of the two adjacent vertebrae;

advancing a tap through the access device to one of the two adjacent vertebrae;

advancing the tap into at least a portion of the hole to create a tapped hole portion;

delivering a fastener through the access device to the tapped hole portion;

delivering a connecting element through the access device; and

coupling said connecting element to the fastener in a manner that permits motion between the adjacent vertebrae.

2. The method of Claim 1, wherein coupling the connecting element to the fastener further comprises:

delivering a clamping element through the access device; and

coupling said clamping element to the fastener.

3. The method of Claim 1, wherein inserting the access device further comprises inserting the access device generally postero-laterally.

4. The method of Claim 1, wherein the connecting element selectively permits one of the two adjacent vertebrae to move away the other of the two adjacent vertebrae.

5. The method of Claim 1, wherein the connecting element selectively permits one of the two adjacent vertebrae to move toward the other of the two adjacent vertebrae.

6. The method of Claim 1, further comprising crimping said connecting element member between said clamping element and said fastener.

7. The method of Claim 1, wherein the connecting element comprises a flexible material and is sized to span a distance between at least the two adjacent vertebrae,

8. The method of Claim 1, wherein the connecting element comprises a material selected from the group consisting of polymers, superelastic metals, superelastic alloys, and resorbable materials.

9. The method of Claim 8, wherein the material is nitinol.

10. The method of Claim 1, wherein the connecting element tends to substantially return to a pre-deformed state when deformed.

11. The method of Claim 1, wherein the connecting element comprises a link rod assembly connected between the two adjacent vertebrae, said link rod assembly comprising at least one jointed member configured to preserve motion between the two adjacent vertebrae.

12. The method of Claim 1, wherein the connecting element comprises a body extending in a direction of alignment, the body being resiliently compressible under forces acting in the alignment direction from a first elongate configuration to a second elongate configuration and reverting to the first elongate configuration spontaneously after the forces is removed.

13. The method of Claim 12, wherein the body comprises a leaf spring having geometrically shaped walls defining an opening.

14. The method of Claim 12, wherein the fastener comprises a member adapted to be anchored to spinous processes of one of the two adjacent vertebrae.

15. The method of Claim 1, wherein the connecting element comprises an artificial ligament.

16. The method of Claim 15, wherein the artificial ligament comprises at least one of a synthetic resorbable material, a natural resorbable material, or a nonresorbable material.

17. A method of treating two adjacent vertebrae in a spine of a patient, comprising:

inserting an access device through a minimally invasive incision in the skin of the patient;

advancing the access device until a distal portion thereof is located adjacent the spine;

expanding said access device from a first configuration to a second configuration, the second configuration having an enlarged cross-sectional area at the distal portion thereof such that the distal portion extends across at least a portion of the two adjacent vertebrae;

delivering a motion preserving, stabilization device to a location between the two adjacent vertebrae through the access device.

18. The method of Claim 17, wherein the stabilization device comprises a facet joint replacement device.

19. A method of treating a spine of a patient, comprising:

inserting an access device through a minimally invasive incision in the skin of the patient;

advancing the access device until a distal portion thereof is located adjacent the spine;

expanding said access device from a first configuration to a second configuration, the second configuration having an enlarged cross-sectional area at the distal portion thereof such that the distal portion extends across at least one of two adjacent vertebrae;

delivering a stabilization device through the access device to a location between the two adjacent vertebrae, the stabilization device being configured to preserve motion between the two adjacent vertebrae.

20. The method of Claim 19, wherein inserting further comprises inserting along a generally posterior approach.

21. The method of Claim 19, wherein the stabilization device selectively permits one of the two adjacent vertebrae to move away the other of the two adjacent vertebrae.

22. The method of Claim 19, wherein the stabilization device selectively permits one of the two adjacent vertebrae to move toward the other of the two adjacent vertebrae.

23. The method of Claim 19, wherein the stabilization device comprises:

an elongate member sized to span a distance between at least the two adjacent vertebrae, said elongate member being at least partially made from a flexible material;

a plurality of fasteners securing said elongate member to each of said at least two adjacent vertebrae, each of said fasteners having an elongate member receiving portion; and

a plurality of coupling elements each attachable to a corresponding one of said plurality of fasteners;

wherein each of said coupling elements includes means for crimping said elongate member between said coupling element and said corresponding fastener on at least two

locations along said elongate member, whereby said elongate member stabilizes the adjacent vertebrae while preserving motion between the adjacent vertebrae.

24. The method of Claim 23, wherein the elongate member comprises a material selected from the group consisting of polymers, superelastic metals and alloys, and resorbable synthetic materials.

25. The method of Claim 24, wherein the material is nitinol.

26. The method of Claim 23, wherein the elongate member tends to substantially return to a pre-deformed state when deformed.

27. The method of Claim 23, wherein the elongate member is relatively inflexible along its elongated axis.

28. The method of Claim 19, wherein the stabilization device comprises a link rod connected between the two adjacent vertebrae, which link rod comprises at least one jointed member configured to preserve motion between the adjacent vertebrae.

29. The method of Claim 19, wherein the stabilization device comprises two fasteners adapted to be fastened to the adjacent vertebra and having a body extending in a direction of alignment of the fasteners, the body being resiliently compressible under forces acting in the alignment direction from a first configuration to a second configuration and reverting to the first configuration spontaneously after the forces is removed.

30. The method of Claim 29, wherein the body comprises a leaf spring having geometrically shaped walls defining an opening.

31. The method of Claim 29, wherein the two fasteners comprise two anchor members adapted to be anchored to spinous processes of the two adjacent vertebrae.

32. The method of Claim 19, wherein the stabilization device comprises an artificial ligament, and at least one fastener engaged to one of the two adjacent vertebrae attaching the artificial ligament to the one of the two adjacent vertebrae.

33. The method of Claim 32, wherein the artificial ligament comprises at least one of a synthetic resorbable material, a natural resorbable material, or a nonresorbable material.

34. The method of Claim 19, wherein the stabilization device comprises a cushioning member between a pair of endplates.

35. The method of Claim 34, wherein the stabilization device comprises a facet joint replacement device.

36. The method of Claim 34, wherein the cushioning member comprises an elastomer.

37. The method of Claim 34, wherein the cushioning member comprises an elastomer.

38. The method of Claim 34, wherein the cushioning member comprises a polymeric urethane.

39. A system configured to apply a dynamic stabilization device between two adjacent vertebrae, comprising:

an access device having a first configuration having a first cross-sectional area at the distal portion thereof for insertion, said access device having a second configuration wherein the distal portion thereof is enlarged to extend across at least one of the two adjacent vertebrae, the access device configured to permit the dynamic stabilization device to be advanced therethrough;

a bone probe configured to be advanced through the access device to form a hole in one of the two adjacent vertebrae; and

a tap configured to be advanced through the access device to thread the hole to create a tapped hole.